DOCUMENT RESUME

ED 111 461 95 JC 750 482

AUTHOR	Trufant, John E.; And Others
TITLE	Perceptions of Former Occupational-Technical Students. Research Report No. 4.
INSTITUTION	Virginia State Dept. of Community Colleges, Richmond.
SPONS AGENCY	Office of Education (DHEW), Washington, D.C.
REPORT NO	RR-4
PUB DATE	74
NOTE	56p.; For related documents, see ED 101 798, 104 499, and 104 500
EDRS PRICE	MF-$0.76 HC-$3.32 Plus Postage
DESCRIPTORS	Females; General Education; Graduates; *Junior Colleges; *Participant Satisfaction; *Student Attitudes; Student Characteristics; *Vocational Education

ABSTRACT

Former occupational-technical students were questioned as to their attitudes toward their community college programs. The large majority of respondents rated their overall experience very high, and said they would recommend their college to someone seeking the same program. Social activities, however, were rated quite low. Women and graduates were much more positive about their community college experience than were their male or nongraduate counterparts. Diploma graduates expressed far more positive attitudes than AAS degree or certificate graduates. Of curricular groups, public service students were the most positive, followed closely by health students. Minorities were somewhat more positive than whites. Students rated the quality and value of their preparation in seven different areas: technical knowledge and understanding, job or learning skills, getting along with people, self-understanding, knowledge about career opportunities, communication skills, and general education. General education received the highest rating, both for quality and current value. Yet, when asked to give their opinion on the balance of general education and technical courses, more than half of the respondents wanted to increase the proportion of technical courses. Tabulated responses are appended. (NHM)

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PERCEPTIONS OF FORMER OCCUPATIONAL-TECHNICAL STUDENTS

Research Report No. 4

by

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JC 750 482

ACKNOWLEDGEMENTS

The authors are indebted to the Virginia community colleges whose representatives cooperated in this study and to the former students who participated by completing the questionnaires. Appreciation is also expressed to Anne Morgan, whose diligence in the preparation of the manuscript was invaluable.

The activity which is the subject of this report was supported in part by the U. S. Office of Education, Department of Health, Education, and Welfare. However, the opinions expressed herein do not necessarily reflect the position or policy of the U. S. Office of Education, and no official endorsement by the U.S.O.E. should be inferred.

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INTRODUCTION

This report describes the attitudes of former occupational-technical students at Virginia community colleges toward their community college experience and current employment. It is the third in a series of three research monographs which present the results of a follow-up study conducted by the Virginia Department of Community Colleges. The first report (Gustilo & Trufant, 1974) provides information about the students' personal and demographic characteristics and a detailed description of the total project. The second report (Eyler, Kelly, & Snyder, 1974) describes the postcollege activities of former occupational-technical students.

Occupational-technical programs are designed to prepare students for employment in technical, paraprofessional, and vocational jobs. Although these programs usually lead to a formal certificate, diploma, or associate degree, community college records indicate that a majority of the students take employment prior to completing their program requirements. This follow-up study was carried out to provide answers to questions about program outcomes for both graduates and nongraduates. Such information is needed for the continued development of educational programs at the Virginia Community College System. Accordingly, this study was authorized by the Chancellor, Dana B. Hamel, and was supported substantially with research funds administered by the Division of Vocational Education, Virginia Department of Education.

Overview of the Total Project

During early 1972, an extensive data collection effort was directed toward the entire population of former Virginia Community College System (VCCS) students who had been enrolled in occupational-technical programs at any time from fall 1966 through fall 1969. Graduates who had earned associate degrees, diplomas, or certificates from 1966 through 1971 were included, as were former students who had changed either to or from occupational-technical programs.

The study was designed to examine characteristics, attitudes and postcollege activities of former students. The following objectives indicate the purposes of the study:

1. To identify selected personal and demographic characteristics of former students in occupational-technical programs
2. To identify the postcollege activities of former students
3. To study the attitudes of former students toward their community college experience and current employment
4. To study patterns of student retention and withdrawal
5. To examine differences among graduates and nongraduates, and among the several types of graduates in terms of their characteristics, postcollege activities, and personal evaluations of college experience and employment

Thirteen of the VCCS's colleges were in operation by fall 1969 and, therefore, had former students eligible for the study. According to a prescribed procedure and format (see Gustilo & Trufant, 1974), the individual colleges identified 11,623 former students as eligible, of whom 3,433 graduated, earning either an associate degree, diploma, or certificate. A college data form (Appendix D) was sent to community college personnel, who provided basic information from students' college records. A questionnaire (Appendix E) was then mailed to all subjects, and a three phase follow-up effort to collect responses was implemented. Twelve percent of the intended mailings were returned as undeliverable. An overall response rate of 61 percent was obtained (73 percent for graduates and 56 percent for nongraduates).

Telephone interviews were conducted using a five percent random sample of nonrespondents as a check on nonresponse bias. Selected items from the questionnaire and from the data supplied by the colleges were used to test for differences between respondents and nonrespondents. Significant differences between the two groups were indicated for the following factors: fathers' education, initial postcollege salaries, and respondents' ratings of job satisfaction, technical knowledge gained at community colleges, counseling services, and the overall community college experience.

In all cases, the nonrespondent group was more positive than the respondent group. The findings indicate that telephone contacts with nonrespondents tend to elicit more positive responses on opinion questions than when the same opinions are given through the mail. The authors believe that the method of eliciting responses, rather than inherent differences in opinions of respondents and nonrespondents, caused the differences. With the possible exception of those areas discussed above, it can be assumed that the data are representative of the entire study population.

Research Questions

Nine research questions were proposed for investigation in this report. Other items were also included. The findings reported and the summary are in response to the research questions listed below:

1. Would former occupational-technical students recommend their community college to others?

2. How do former occupational-technical students rate the quality and value of certain aspects of their community college preparation?

3. How do former occupational-technical students evaluate aspects of their college experience, such as instruction, curriculum, facilities, social activities, college environment, and counseling?

4. How do former occupational-technical graduates rate the balance of technical/skills courses and general education courses in their programs?

5. What proportion of students changed programs? Among those who changed, what reason(s) do they give for changing?

6. What were the educational goals of nongraduates when they entered the community college, and were those goals achieved?

7. How do former occupational-technical students evaluate their present employment in such matters as salary, nature of their work, relations with co-workers, and opportunity for growth?

8. What source was most helpful to the students in obtaining their first job upon leaving the community college, and what were their feelings about the help they received in placement from the community college?

9. What factor(s) influenced students to attend community colleges or enroll in specific occupational-technical programs? (This question was not covered in the questionnaire and, therefore, cannot be answered in this report.)

Data Analysis

The method of analyzing the data was entirely descriptive. Automated data processing procedures were used to collate the various inputs and to produce usable data summaries. The data were summarized to permit comparison of respondent groups on the basis of sex, race, graduation status, graduation credential, and curriculum.

In order to analyze findings by useful curricular groupings, the individual curricula were grouped into six areas which contained similar or related programs. Appendix F enumerates the individual curricula encompassed by each of the curricular areas. Readers are referred to the companion report by Gustilo and Trufant (1974) for a more detailed treatment of the data analysis.

Summary of the First and Second Reports

The first report (Gustilo & Trufant, 1974) contains a detailed description of the total project and describes background characteristics of the respondents. The following paragraphs summarize these characteristics:

• Enrollments in various curricula and degree programs were not evenly distributed. Slightly more than half of the respondents were in business curricula, and an additional one-third were in engineering. Most of the graduates had earned AAS degrees, rather than diplomas or certificates.

- About seven-tenths of the total respondents were men, but among minority respondents the percentages of men and women were nearly equal. Proportionally more women than men had graduated at the time of the survey. Most men were in engineering or business curricula, while women overwhelmingly chose business.

- White and minority groups showed different patterns of distribution by curriculum, graduation status, and graduation credential. While minority respondents tended to enroll in business and health curricula, whites chose public service and engineering. Proportionally more whites than minorities had graduated at the time of the survey. Whites more often earned AAS degrees and diplomas, while minorities more frequently earned certificates.

- Age and marital status varied for men and women. The median age of all respondents was 22.8 years, with men approximately one year older than women. Although the majority of all respondents were married, this proportion was greater for men than for women.

- About one in three parents of the former students had no formal education beyond the eighth grade. Fathers of AAS degree graduates were generally better educated than fathers of other graduates. Minority parents tended to have less formal education than white parents.

- Grade point average varied by sex, race, graduation status, and graduation credential. On the average, women had higher GPAs than men, and whites earned better grades than minorities. Graduates had higher GPAs than nongraduates, and those with diplomas had the highest GPAs of all graduates.

The second report (Eyler et al.) describes the postcollege activities of former occupational-technical students. The findings of this report are summarized in the following paragraphs:

- Ninety percent of the respondents were gainfully occupied on a full-time basis; 72 percent had full-time jobs, eight percent were in college full-time, five percent were in the military, and five percent were homemakers. Women were employed full-time less frequently than men, but the percentage of women working part-time was twice that of men. A higher percentage of minorities than whites had part-time employment, and proportionally more were unemployed. Greater percentages of graduates than nongraduates were employed full-time, and diploma graduates had higher rates of employment than either degree or certificate graduates.

- The majority of former students reported working in jobs related to their community college training. This percentage increased from 60 percent for first jobs after college to 72 percent for present jobs. In both first and present jobs, women, graduates, and whites reported a higher percentage of job relatedness than did their counterparts. Public service and health students reported that their present jobs were related to college training more frequently than did students in other areas.

• The median salary for initial jobs after community college was $5,419; for present jobs the median had risen to $7,158. Men and whites earned higher salaries, in both initial and present jobs, than did women and minorities. Nongraduates received higher initial and present salaries than did graduates - possibly a function of their greater median age. Certificate graduates earned considerably less than diploma and degree graduates in both initial and present jobs.

• More than nine of ten former students were working either in Virginia or Washington, D.C. Over eight of ten were employed within 50 miles of their former community college.

• Approximately half of the former students pursued some type of post-community college training, ranging from employer training programs to baccalaureate study. Somewhat greater proportions of men than women and of graduates than nongraduates sought further training. The primary reasons given for continuing education were general education and personal satisfaction, on-the-job advancement, and skill improvement. Three of four students who pursued further training reported that it had been at least somewhat related to their community college programs.

• One of three nongraduates cited employment as a reason for discontinuing education. Other reasons, given about half as frequently as employment, included marriage, lack of interest, lack of financial support, military service, and personal adjustment. Minority respondents cited lack of financial support, personal adjustment problems, low achievement, and lack of transportation more frequently than did white respondents.

RESULTS

The following three categories relating to the attitudes of former occupational-technical students are addressed in this report:

1. Ratings of community college experience
2. Curricular change and goal attainment
3. Employment ratings

A series of questions was asked concerning each of the categories. The responses are discussed in terms of former student characteristics of sex, race, graduation status, graduation credential, and curriculum. The data for each question are presented in separate tables, arranged to show the results across each of these five variables (Appendix A).

Ratings of Community College Experience

Former students were asked to rate their community college experience in a number of ways. First, they were asked if they would recommend the college to others. Second, they were asked to rate both the quality and value of their college preparation, as well as specific aspects of their community college experience. Third, graduates were asked to rate the balance of technical and general education at their community colleges.

Recommendation of College to Others

All respondents were asked whether they would recommend the community college to someone seeking to complete the same program of study. The response was overwhelmingly positive; 90 percent of the total group answered "yes." There was little variation of response by race, sex, graduation status, or graduation credential (Table 1). Minor variation by curriculum occurred.

Quality and Value of College Preparation

Former students were asked to rate first the quality of their college preparation and then the value of that preparation to them at the time of the survey. The rating scale offered four choices: superior, good, fair, and poor. Seven different aspects of community college education were evaluated as noted in the following tabulation which compares the results of the two questions on the seven dimensions:

	Quality of College Preparation	Current Value of College Preparation
	Percent Rating Superior or Good	
Technical Knowledge and Understanding	77	68
Job or Learning Skills	71	69
Getting Along with People	74	75
Self-Understanding	67	70
Knowledge About Career Opportunities	52	48
Communication Skills	67	65
General Education	81	76

Interestingly, former occupational-technical students gave highest ratings in both quality and value to general education. Quality and value of knowledge about career opportunities were rated lowest. The current value of college preparation was rated higher than the quality of preparation in only two aspects: getting along with people and self-understanding.

The following paragraphs present former students' perceptions of the quality and value of each of the seven aspects of their community college preparation. Tables 2 and 3 contain the data on which the discussions are based.

Technical knowledge and understanding. The largest discrepancy between quality ratings and value ratings was in the area of technical knowledge and understanding. More former students assessed quality of preparation higher than its current value to them. Women and graduates were more likely to give higher ratings to both quality and value of technical preparation than were men and nongraduates. Among curricular groups, only health students rated the current value of their technical knowledge higher than the quality of preparation.

Job or learning skills. About seven-tenths of the respondents gave superior or good ratings to both the quality and value of their job or learning skills preparation. Women, minorities, and graduates were more positive in rating both the quality and value of these skills than were men and nongraduates. Although only minor differences among types of graduates were noted on the current value of job skills preparation, both diploma and certificate graduates gave higher ratings to the quality of that preparation. Health and public service students gave higher ratings than those in other curricula to this aspect of their preparation.

Getting along with people and self-understanding. Former students were also requested to rate the quality and value of two somewhat interrelated affective dimensions of their preparation: getting along with people and self-understanding. Three of four respondents gave

superior or good ratings to the quality and value of preparation in getting along with people. Nearly 7 of 10 gave the same ratings in the area of self-understanding. These high ratings seem especially noteworthy since commuter colleges must make special efforts to provide students with opportunities for personal growth. Women, minorities, and graduates were more positive than men, whites, and nongraduates in their evaluations of the quality and value of preparation in getting along with people. Women and men rated the quality of their preparation in self-understanding superior or good with equal frequency (67%), but six percent more women than men currently valued that preparation.

Knowledge about career opportunities. Knowledge about career opportunities was given the fewest high ratings of the seven dimensions: 52 percent for quality and 48 percent for current value. Women, minorities, and graduates gave higher ratings than men, whites, and nongraduates on this aspect of their community college education. Among graduates, diploma recipients gave higher ratings to their preparation in knowledge about careers than did AAS or certificate graduates. Health students gave higher ratings than those in other curricular areas. With the important relationship between career planning and career training, these findings seem to indicate a need for greater emphasis on preparation in knowledge about career opportunities.

Communication skills. Respondents were asked to rate the quality and value of their preparation in communication skills. This aspect received a lower rating than all but one of the other dimensions. The quality of preparation in communication skills was given a higher rating than the value of the preparation. In communication skills as in most other areas, women, minorities, and graduates rated their preparation, both quality and value, higher than did men, whites and nongraduates. Among curricular groups, health students gave the most favorable assessment of their preparation in communication skills.

General education. Former students gave the highest ratings to both their preparation in general education and its current value to them. Women, minorities, and graduates gave higher rating to their preparation in general education and also its current value than did their counterparts. There was little difference in ratings by types of graduates in this area. Among curricular groups, public service students gave a somewhat higher rating to this dimension.

It is noteworthy that general education received the most positive ratings of the seven dimensions which were evaluated. This finding is unexpected in view of the goals that are usually attributed to occupational-technical students. Certainly, further study is needed to determine the relationship between the quality of community college career preparation and the content of general education. However, one must guard against the quick judgment that all or most occupational-technical students should undergo specific general education assignments.

Aspects of Community College Experience

Former students were asked to rate their community college experience in terms of eight specific aspects and an overall judgment. The rating scale contained four choices: superior, good, fair, and poor. The following tabulation presents the extent of superior or good ratings given for each aspect by all respondents:

	Percent Rating Superior or Good
Shop and Lab Instruction	73
Academic Instruction	82
Shop and Lab Facilities and Equipment	70
Other Facilities	66
Counseling Given Students	54
Social Activities	29
Faculty Interest in Students	68
Evaluation of Students' Performance	65
Overall	76

Three of four former students gave a superior or good rating for overall community college experience. There was considerable variation among the eight specific aspects, ranging from a high of 82 percent for academic instruction to a low rating of 29 percent for social activities.

The following paragraphs present the former students' perceptions of the eight aspects of their community college experience and their overall judgment. Table 4 contains the data used in these discussions.

Shop and lab instruction. Superior or good ratings were given to shop and lab instruction at the community college by 73 percent of former occupational-technical students. Graduates were more positive on this aspect than nongraduates. Diploma students, who normally have the most intensive vocational training, gave much higher ratings to this aspect than did AAS graduates. Among curricular groups, communications/media and engineering students gave the highest ratings.

Academic instruction. More than eight of ten former students gave superior or good ratings to academic instruction. Of all aspects, academic instruction was rated the highest. Graduates were more likely to rate their academic instruction superior or good than were nongraduates. Among curricular groups, somewhat more public service students gave high ratings than did those in other groups.

Shop and lab facilities and equipment. Seven of ten former students rated their shop facilities and equipment superior or good. Women, whites and graduates gave slightly higher ratings than did their counterparts. Engineering students were the most positive on this dimension, whereas public service students were the least positive. Interestingly, the communications/media students, who gave the highest ratings to shop

instruction, gave the lowest ratings to shop facilities. This contrast in ratings deserves examination by those colleges which enrolled significant numbers of these students.

Other facilities. About two-thirds of the respondents gave superior or good ratings to facilities other than those found in shops and laboratories. Whites and graduates were more positive than minorities and nongraduates.

Counseling given students. Slightly over half of the former students rated counseling as superior or good, resulting in the second lowest rating of the eight aspects evaluated. Women and minorities rated counseling higher than did men and whites. Ten percent fewer AAS graduates than diploma and certificate graduates rated counseling superior or good. Reasons for this lower rating by AAS graduates are not apparent and may deserve further consideration.

Social activities. The fewest ratings of superior or good were given to social activities. These ratings were consistently low across all groups. It is difficult to provide social activities at community colleges because of the large numbers of part-time, married, and employed students. Also, the role of the community college has not been defined to include a major component of social development. Since no measure of desire for social activities was included in this study, but can only be inferred from the low ratings, any implications drawn from this finding should be considered tentative.

Faculty interest in students. Nearly seven of ten respondents rated faculty interest in students superior or good. Men were slightly more positive in their ratings than women. Whites and graduates, more than their counterparts, rated faculty interest in students as superior or good. More diploma graduates gave this aspect high ratings than did AAS or certificate graduates. Public service students gave the highest ratings of all curricular groups to this aspect of community college experience; health students gave the lowest.

Evaluation of students' performance. About two-thirds of the former students gave superior or good ratings to evaluation of student performance. Men and graduates were slightly more likely than women and nongraduates to give high ratings to this aspect, and whites were considerably more likely than minorities to give high ratings. Certificate graduates gave much lower ratings to evaluation of student performance than did AAS or diploma graduates. Among curricular groups, public service students gave the highest ratings.

Overall. Students were requested to give an overall rating of their community college experience. More than three of four students rated their overall experience superior or good. Women and whites gave higher ratings than did men and minorities. Graduates gave notably higher ratings than did nongraduates. Certificate graduates gave lower ratings than did AAS or diploma graduates. Among curricular areas, public service students gave the highest ratings to their overall experience at the community college, and engineering and business students gave the lowest ratings.

Proposed Mix of Technical and General Education Courses

Graduates were asked to give their opinion on the balance of applied technical/skills courses and general education courses in their programs (Table 5). One in three respondents agreed that the proportion of each was all right and should not be changed. However, more than half expressed the desire to have more technical and skills courses. Only 15 percent preferred an increase in general education courses.

Twelve percent more men than women desired an increase in the proportion of technical courses. Diploma and AAS graduates had a strong divergence of opinion on the balance of courses; sixteen percent more diploma graduates expressed the need for a greater emphasis on technical courses. This finding is not surprising, since diploma programs are specifically designed for a defined area of technical mastery upon graduation.

Opinions among curricula groups varied considerably. Although the largest proportions of all groups desired more technical and skills courses, business students were least likely to want more technical courses and most likely to want more general education. Graduates in communications and engineering were most likely to want a higher proportion of technical courses.

These findings indicate that many occupational-technical graduates feel a greater need for courses which prepare them for a career than for courses in general education. This appears to be especially true for those graduates who looked upon their community college education as terminal, leading directly to a career.

It is particularly intriguing that although more than half of the graduates wanted fewer general education courses, 84 percent of them rated their preparation in general education superior or good, and 81 percent indicated that the current value of general education was superior or good. The question that arises is whether the graduates were inconsistent in their evaluation. A plausible explanation could be that although students rated the quality of preparation high and found value in general education, the press of career competence caused many to desire more technical courses. The dilemma of what balance of general education and technical courses should exist is one with which community college educators continue to struggle.

Curricular Change and Goal Attainment

All former occupational-technical students were asked whether they had changed from one curriculum to another while at the community college. Those who had changed were then asked their reasons for doing so. Nongraduates were requested to give their initial educational goal upon enrollment and to evaluate whether or not they had achieved that goal.

Curricular Change

Nearly eight in ten students made no change in curriculum from the time of their enrollment (Table 6). Of the 21 percent who did change, however, they were more likely to be men, minorities, and nongraduates. Of graduates, 23 percent of certificate holders and 19 percent of AAS degree holders had changed curricula, compared to 11 percent of diploma graduates. Among curricular groups, health services students were the least likely to have changed curricula, and business students were the most likely.

Reasons for Changing Curriculum

Respondents who changed curricula were asked to indicate the reason or reasons for the change. The first column in the following tabulation lists, for those students changing curricula, the percentage checking each reason. The second column contains the percent of all respondents who checked each reason. Total percentage does not add to 100 in the first column, as students could check more than one reason.

	Percent of Those Who Changed Curricula	Percent of Total Respondents
Changed Career Goals	36	8
Wrong Choice of Curriculum	35	7
Loss of Interest	23	5
Dissatisfied with Curriculum	22	5
Low Achievement	18	4
Dissatisfied with Instruction	11	2
Other	10	2
Counselor's Advice	8	2
Personal Problem	8	2
Little Opportunity in Field	7	1
Parents Objected	2	0

The four most frequently cited reasons for changing curricula were closely interrelated: changed career goals, wrong choice of curriculum, loss of interest, and dissatisfied with curriculum. These findings may indicate that many students did not have a clear understanding of the nature of particular careers or curricula upon college entry. Eighteen percent of those students who changed curricula cited low achievement as their reason. It is interesting that only 11 percent cited dissatisfaction with instruction - half as many as were dissatisfied with curriculum.

It is important to note in the second column that the percentage of the total respondents checking any reason was very small.

There were noteworthy variations in the frequency of reasons for changing curricula given by men and women, whites and minorities, and graduates and nongraduates (Table 7). Men were more likely to cite low achievement whereas women were more likely to cite personal problems

and counselors' advice. More than twice as many whites as minorities cited dissatisfaction with curriculum. Whites also cited wrong choice of curriculum and changed career goals more than minorities did. Low achievement and personal problems were indicated more often by minorites than whites. Nongraduates were more likely to cite loss of interest than graduates, who more often cited wrong choice of curriculum.

Several differences were apparent in the reasons for changing curricula given by different types of graduates (Table 7). Diploma graduates were much more likely to indicate dissatisfaction with curriculum and loss of interest than were AAS degree or certificate graduates. However, diploma graduates were only half as likely to have changed curricula as were the other two graduate groups. More certificate graduates cited wrong choice of curriculum, little opportunity in the field, and low achievement.

Reasons for changing curricula varied somewhat among the different curricular groups. Public service students, more than any other group, had changed curricula due to dissatisfaction with the curriculum, loss of interest, and changed career goals. The percentage of communications students who changed curricula because of low achievement was higher than that for other groups. Health students also cited changed career goals often; however, health students were least likely to have changed curricula.

Although most students did not change curricula, there are indications among the findings that many of those who did based their decision on additional information about themselves and their educational experiences. This implication is drawn from the fact that the four reasons related to curricular choices and career goals were each marked by 22 to 36 percent of the respondents. Additional study is needed in order to draw firm conclusions about this group of students.

Initial Educational Goals

Nongraduates were asked to indicate their educational goal upon enrollment at the community college (Table 8). The following tabulation presents the choices offered and the responses of the total group:

Initial Educational Goal	Percent
Certificate or Diploma	33
Associate Degree or Higher	36
Upgrade Technical Knowledge	12
Increase General Knowledge and Level of Education	17
Other	2

Sixty-nine percent of the nongraduates had planned to complete a program leading to some type of graduation award. Seventeen percent wanted to increase their general knowledge and level of education, and 12 percent wanted to upgrade their technical knowledge.

The associate degree or higher was indicated by proportionally more men than women, whereas more women planned to earn certificates or diplomas. Minority students were more likely to have planned to earn all types of awards than white students (Table 8). Whites were more frequently interested in upgrading their technical knowledge or increasing their general knowledge and level of education.

Some variations in initial educational goals were evident among curricular groups. Health and public service students were far more likely than other students to plan on earning associate degrees or higher. Far fewer health students enrolled to increase their general knowledge and level of education than did other curricular groups. Communications and health students enrolled to increase their technical knowledge and understanding less frequently than did other students.

Attainment of Initial Educational Goal

Since 69 percent of the nongraduates indicated an initial goal of completing a graduation award, it is apparent that most nongraduates had not attained their goal at the time of the survey. To explore further the extent of goal attainment, nongraduates were asked if they had attained their initial educational goal (Table 9). Seventy-seven percent indicated that they had not attained their goal. Of these 77 percent, as many as 69 percent could be nongraduates who had wanted to graduate. To a very small extent, men, minorities, communications, health, and public service students were less likely to have attained their goals than were their counterparts.

It might be concluded that all graduates plus those nongraduates who indicated attainment of their educational goals (45 percent in all) had completed their initial educational goals by the time of this survey in 1972. In addition, it might also be assumed that some would attain their goals through employment (see Eyler et al., 1974), and still others would attain their goals by continued college attendance after the time of the survey. The extent and nature of goal attainment is not easily measured, however.*

Educational goal setting by many community college students does not appear to be realistic. The findings on goal attainment seem to indicate that many students need assistance for both career and educational planning. This assistance should probably begin prior to initial enrollment and continue throughout their educational program.

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*Twenty-nine percent of the total population for this study were graduates. Seventy-one percent were nongraduates, of whom 23 percent reported attaining their goals. Thus, .29 + (.71) (.23) = .45.

Employment Ratings

Former students were asked to evaluate their postcollege employment. In addition, they were asked to provide information on the source most helpful to them in obtaining a job and to assess the placement assistance provided by the community college.

Job Satisfaction

Respondents were asked to rate their satisfaction with five aspects of their jobs (Table 10). These aspects and their ratings were as follows:

Aspects of Job	Percent Rating Superior or Good
Challenging and Interesting Work	78
Relations with Colleagues	66
Salary	57
Opportunity for Advancement	53
Overall	72

About seven of ten respondents gave superior or good ratings for overall satisfaction with their job. Highest ratings were given to relations with colleagues, followed by challenging and interesting work. Salary was rated lower, and opportunity for advancement was rated lowest.

More men than women on a proportional basis thought their opportunity for advancement was superior or good. Women rated their relations with colleagues higher than did men.

Minorities were less positive on all five diemensions of job satisfaction than whites, especially on overall job satisfaction.

Graduates gave higher ratings than nongraduates in three areas of job satisfaction: challenging and interesting work, relations with colleagues and overall satisfaction. Diploma graduates indicated the greatest satisfaction with their salaries, whereas AAS degree graduates gave the highest ratings to relations with colleagues and to overall satisfaction. Certificate graduates gave generally lower ratings to salaries, opportunities for advancement, and overall job satisfaction.

Ninety-one percent of the health students gave high ratings to the challenging and interesting nature of their work, and yet only about half thought their opportunities for advancement or their salaries were superior or good. More health students than those in any other curricular group gave high ratings to overall job satisfaction. Communications/media students rated the dimensions of interesting and challenging work and overall aspects the lowest of all curricular groups. Job satisfaction is particularly related to expectations about a job. Possibly, more education about various careers could help to remove some of the dissatisfaction that students have about their work and give them more realistic expectations.

Public service students gave higher ratings than most curricular groups to relations with colleagues and the interesting nature of their work. They rated opportunity for advancement and salary satisfaction lower than did other groups. Their low degree of salary satisfaction is interesting, since public service students reported higher salaries than any other group (see Eyler et al., 1974).

In summary, all curricular groups gave relations with colleagues the most high ratings, and salaries and opportunity for advancement, the fewest high ratings. Among curricular groups there was considerable variation in their ratings of challenging and interesting work from a low of 75 percent to a high of 91 percent. This was also true for overall job satisfaction, where high ratings ranged from 65 percent to 82 percent.

Placement Assistance

Former students were asked to indicate from a list the one source most helpful to them in obtaining their first job upon leaving the community college. In addition, they were requested to indicate their feelings about the help they received from the community college in getting their first jobs.

The following tabulation provides the percentage of students checking each of the sources most helpful to them in finding their first job:

Source of Help	Percent
College Placement Center	4
College Staff Member	5
Employer Contact at the Community College	6
State Employment Service	5
Answered an Ad	12
Relative or Friend	38
Other	29

Sources other than the community college were checked by a large majority of students. Fewer than one in ten former students indicated that community college personnel had been the most helpful source in finding them their first job. Because these students had attended the colleges in the earliest years of their operation, this finding should not be interpreted negatively. Services such as placement assistance, which were not organized or even offered in the colleges' developmental years, have become much more widely available.

Nearly twice as many women as men indicated that the community college was the most useful source in getting them their first jobs (Table 11). Minority students indicated slightly more community college assistance than did whites. Graduates were far more likely than nongraduates to have found community college personnel most helpful. Diploma graduates indicated less help from community college personnel

than did AAS graduates and certificate graduates. Community college personnel had been most frequently helpful to health students in getting first jobs and had least often been helpful to public service students.

These findings must be interpreted cautiously in view of the fact that students were asked to give only the "most" helpful source. They were not questioned about other sources of information that were useful in getting first jobs.

In addition to the question on "source most helpful in getting first job," students were asked to indicate their feelings about the help they received in placement from the community college by checking one or more of several statements that were provided (Table 12). The following tabulation lists the choices and the percentage of students marking each one:

Student's Attitude Toward Assistance	Percent
Placement Office Was Helpful	18
Faculty Members Were Helpful	38
Little Help Was Given	27
Faculty Didn't Seem to Know About Available Opportunities	16
Placement Service Was Inadequate	25

Nearly two in ten former students thought that the placement office was helpful, and twice that many thought that faculty members were helpful. About one in four students felt that little help was provided. A number of students thought that faculty did not know about available opportunities. One-fourth of the former students felt that the placement service was inadequate. The feelings expressed by men and women and whites and minorities were substantially the same on this question.

More graduates than nongraduates indicated that the placement office and faculty members were helpful. More nongraduates said that they were given little help by the community college in placement.

AAS and diploma graduates indicated far more help from the placement office than did certificate graduates; yet, AAS graduates were most likely to rate the placement service inadequate. It seems that AAS graduates may have had higher expectations of placement services than did other graduates. Faculty members were rated most helpful in placement assistance by diploma graduates.

Engineering students reported help from the placement office more often than did any other curricular group. Health and public service students were most likely to indicate that faculty members were helpful. A higher proportion of communications students than those in other curricula groups thought that the placement service was inadequate.

The role and responsibility of the community college for placement services has not been adequately defined. Furthermore, job market, academic qualifications, and many other factors must be considered

when evaluating placement office success. These findings therefore must be interpreted with that in mind. There is a great need for further investigation in this area. It is particularly important that the findings reported here not be assumed to be representative of Virginia's community colleges in 1974-75.

SUMMARY AND CONCLUSIONS

This section contains a summary of findings, implications of the results, and recommendations for further research. The summary is presented in terms of the eight research questions investigated in this report. Implications are drawn from selected findings which the writers deem worthy of further attention.

Summary of Findings

1. Would former occupational-technical students recommend their community college to others? Ninety percent of the former students responded that they would recommend their community college to another person seeking to complete the same program of study (Table 1). Although little variation was noted across different groups of students, public service students were more likely to answer "yes" to the question than any other group, and health services students were more likely to answer "no".

2. How do former occupational-technical students rate the quality and value of certain aspects of their community college preparation? Former students were asked to rate both the quality and the value of seven aspects of their community college experience on a four-point scale from superior to poor (Tables 2 and 3). The seven aspects were technical knowledge or understanding, job or learning skills, getting along with people, self-understanding, knowledge about career opportunities, communication skills, and general education. The current value of preparation was rated higher than the quality of preparation in two aspects: getting along with people and self-understanding. The lowest ratings were given to the aspect of knowledge about career opportunities, while the highest ratings were given to general education.

On all aspects, women, whites, and graduates generally rated both the quality and value of their preparation higher than did men, minorities, and nongraduates.

Diploma graduates tended to rate the quality of preparation higher than either AAS or certificate graduates. Certificate graduates, on the other hand, were likely to rate the value of their preparation higher than did the other two groups. Only on the aspect of communication skills did AAS graduates give higher ratings to quality and value than diploma and certificate students.

Among curricular groups, health services and public service students tended to give the highest ratings to the quality of their preparation. Engineering students gave the lowest ratings to the quality of their preparation in all aspects but technical knowledge and job or learning skills.

The value of their preparation was given the most high ratings by health students in all but two aspects (getting along with people and general education). Engineering students rated the value of their

preparation lowest of all curricular groups on all aspects but technical knowledge and job or learning skills.

3. How do former occupational-technical students evaluate aspects of their college experience, such as instruction, curriculum, facilities, social activities, college environment, and counseling? Former students evaluated eight aspects of their college experience on a four-point scale from superior to poor. The eight aspects were: shop and laboratory instruction, academic instruction, shop and laboratory facilities and equipment, other facilities, counseling given students, social activities, faculty interest in students, and evaluation of students' performance. In addition, they were asked to give an overall rating (Table 4).

About three of four students gave superior or good ratings to their overall experience. Women, whites, and graduates gave a greater percentage of high ratings to the overall judgment than did their counterparts. Certificate graduates were considerably less positive than AAS or diploma graduates on the overall evaluation. Public service students gave a higher rating to this dimension than any other curricular group, whereas engineering students gave the lowest.

The ratings given by men and women to each aspect were not greatly different, varying usually by one or two percent. Four percent more women, however, gave high ratings to counseling given students. Differences were noted in the ratings given by white and minority students to several aspects. The largest discrepancy was in counseling, where ten percent more minorities than whites gave high ratings. Perhaps more women and minority students sought the help of counselors. Six percent more white students gave high ratings to faculty interest in students, and eight percent more whites rated evaluation of students' performance high.

Graduates tended to give high ratings more frequently than did nongraduates. Eleven percent more graduates rated faculty interest in students superior or good. Academic and shop/laboratory instruction were rated higher by eight percent more graduates than nongraduates. Graduates' ratings of facilities were considerably higher than non-graduates' ratings. Counseling was rated about the same by both groups.

AAS, diploma, and certificate graduates had wide differences of opinion on many aspects of their community college experience. Diploma graduates gave much higher ratings to shop and lab instruction, counseling, social activities, and faculty interest in students than did AAS graduates. Both AAS and diploma graduates rated evaluation of students' performance much higher than did certificate graduates. AAS graduates gave the highest ratings to the aspect of academic instruction.

Six aspects of community college experience were rated the highest by public service students. They also rated the aspects of shop and lab instruction and facilities the lowest of all curricular groups. The lowest ratings on academic instruction and social activities were given by engineering students, whereas the lowest ratings on faculty interest in students and evaluation of students' performance were given by health services students. Counseling was given high ratings by only slightly more than half of all curricular groups.

4. How do former occupational-technical graduates rate the balance of technical/skills courses and general education courses in their programs? More than half of the former students expressed a desire for more technical/skills courses. About one-third thought the balance of each was all right, and the remaining 15 percent preferred to increase the amount of general education courses (Table 5).

Many more men than women wanted to increase the technical/skills courses in their programs. Since men were more likely than women to be working full-time (see Eyler et al., p. 9), this finding is not surprising. Diploma graduates were far more likely than AAS graduates to want an increase in the proportion of technical/skills courses. As diploma programs are designed for more intense technical mastery, this finding too would be expected.

Among curricular groups, opinions varied on the balance of technical and general education courses. Nearly two-thirds of the engineering and communications/media graduates wanted more technical and skill courses, compared to about half of public service and health graduates and even fewer business graduates.

5. What proportion of students changed programs? Among those who changed, what reason(s) did they give for changing? The large majority of former students had made no change in curriculum. Of the 21 percent who did change, they were more likely to be men, minorities, and nongraduates. Of the graduates who had made a change, they were most likely to be certificate graduates and least likely to be diploma graduates. Proportionally more business students changed curricula, and proportionally fewer health students changed (Table 6).

The four most frequently cited reasons for changing curricula were changes in career goals, wrong choice of curriculum, loss of interest, and dissatisfaction with curriculum (Table 7). Men were more likely to cite low achievement than women, who tended to indicate personal problems and counselors' advice. Whites were twice as likely as minorities to cite dissatisfaction with the curriculum whereas minorities checked low achievement and personal problems more than whites. Dissatisfaction with curriculum and loss of interest were most often cited by diploma graduates while certificate graduates were most likely to indicate wrong choice of curriculum and low achievement. AAS graduates were the most likely to cite changed career goals.

6. What were the educational goals of nongraduates when they entered the community college, and what proportion attained their goals? Nearly seven of ten nongraduates indicated that their initial educational goal upon enrollment was to complete a program which led to some type of graduation award (Table 8). Twelve percent wanted to upgrade their technical knowledge, and 17 percent wanted to increase their general knowledge and level of education. Little difference was found in the goals of men and women, but minorities were more likely to want to earn a graduation award than whites.

Since 69 percent of the nongraduates indicated an initial goal of graduating, it is apparent that they had not attained their goal at the time of the survey. Twenty-three percent of the nongraduates responded

that they had attained their goals (Table 9). In addition, it might be assumed that some nongraduates would reach their goals subsequently, through employment or continued education.

7. How do former occupational-technical students evaluate their present employment in such matters as salary, nature of their work, relations with co-workers, and opportunity for growth? Overall job satisfaction was rated superior or good by 72 percent of the respondents (Table 10). The highest rating was given to the dimension of relations with colleagues; the lowest rating was given to opportunity for advancement. More men than women thought their opportunities for advancement were superior or good. Minorities were less positive than whites on all five dimensions of job satisfaction. Graduates were generally more positive than nongraduates although the same proportion of each group rated salary and opportunity for advancement high. Diploma and AAS graduates were more satisfied than certificate graduates, on all dimensions of job satisfaction.

Health students expressed the highest overall satisfaction, while communications students expressed the lowest. Business students gave the most superior or good ratings to both salary and opportunity for advancement while health students indicated the highest ratings for relations with colleagues and challenging and interesting work. Public service students were the most dissatisfied with salaries.

8. What source was most helpful to the students in obtaining their first job upon leaving the community college, and what were their feelings about the help they received in placement from the community college? The large majority of students indicated sources other than the community college had been most helpful in obtaining their first job (Table 11). Fewer than 1 in 10 students cited college personnel. Women, minorities, and graduates indicated the college as the most helpful source more than men, whites, and nongraduates. More AAS and certificate than diploma graduates indicated college personnel as the most helpful source.

More than one of two students felt that the college had been helpful in placement, particularly faculty members (Table 12). One of four students thought that the placement service was inadequate, and another one in four felt that little help had been given. Sixteen percent thought that faculty members did not know about available opportunities.

Implications

A number of implications of the findings in this report have been drawn in the narrative section. Certain findings are presented here in relation to one another, in order to draw several tentative conclusions about issues believed to be of special importance to community college educators.

Although former occupational-technical students evaluated some aspects of their community college experience low, they overwhelmingly said they would recommend the college to someone seeking to complete the same program. The large majority rated their overall experience very high. It is apparent that the overall attitude of former students toward their community college education is excellent.

When examining the attitudes of occupational-technical students, it is important to remember that their primary objectives are usually immediate career entry and, consequently, direct application of their education to a job. Nonetheless, more than two-thirds of the former students thought the quality of preparation in self-understanding and getting along with people was high, and they currently valued their preparation in these areas even higher. Because much personal development in the community college must take place inside the classroom due to commuter and part-time characteristics, these findings are very encouraging.

During the past two decades, the array of career opportunities in any single field has broadened considerably. If this trend continues, students must have the ability and opportunity to examine a wide range of alternatives in career planning. Findings in this report show that students evaluate the quality of their preparation in knowledge about career opportunities quite low and the value of that preparation even lower. Of those students who changed curriculum, the largest portion cited changed career goals and wrong choice of curriculum. Nearly half of all respondents said that they had not reached their initial educational goal. Almost half of the former students rated their opportunities for advancement in their present job only fair or poor. The interrelationship among these findings seems to have clear implications for increased exposure to a variety of career options and the positive and negative aspects of particular careers. It appears that there is a great need for the community college to examine closely its present efforts in helping occupational-technical students choose and plan their career patterns.

In rating aspects of their community college experience, students were generally quite positive. Social activities, however, were rated quite low. Since students at community colleges are nonresidential and many of them are part-time, employed, or married, the provision of social activities is somewhat difficult. Moreover, the role and responsibility of the community college in this area has not been clearly defined. If community colleges are not to be responsible for major development in the area of social activities, students should be adequately informed before they enroll. The low ratings of social activities indicate that students' expectations in this area are unrealistically high.

The subject of general education was addressed in two parts of this report. Students rated the quality and value of their community college preparation in seven aspects, including the aspect of general education, which received the students' highest rating, both for quality and current value. Yet, when the graduates were asked to give their opinion on the balance of general education and technical courses, more than half wanted to increase the proportion of technical courses. The proper balance of courses in a community college is a particularly important question, especially for occupational-technical students. The question has very broad implications for both program planning and subsequent evaluation.

Former occupational-technical students were asked five questions related to their perceptions or attitudes about the community college. These five areas included recommendation of college to others (Table 1),

quality of preparation (Table 2), current value of preparation (Table 3), aspects of community college experience (Table 4), and job satisfaction (Table 10). In order to get a measure of which subgroups expressed the most positive attitude overall, the responses to each part of the five attitude questions were tallied. For example, former students rated their job satisfaction in terms of five different aspects (Table 10). Graduates gave more positive ratings than nongraduates on three of the five aspects. Graduates, therefore, received three points. On the other two aspects, graduates and nongraduates gave equal ratings, and, therefore, no points were given. For all five questions, there were 29 parts. Table 13 presents a summary of the groups responding most positively across the five attitude dimensions.

The results showed that women and graduates were overwhelming more positive about their community college experience than were their counterparts. Minorities were somewhat more positive than whites. Diploma graduates expressed far more positive attitudes than AAS degree or certificate graduates. Of curricular groups, public service students were the most positive, followed closely by health students.

These findings suggest a number of questions which cannot be fully answered in this study:

- Why were women's attitudes so much more positive than men's? Are these attitudes related to pressures men face in the job market, as compared to women, who are less likely to have these pressures? Do women have different expectations than men about what the community college should do for them? Are women's more positive attitudes related to their relatively higher success rates in high school?

- Did minority students have different expectations than whites about the community college experience? Did simply having the opportunity to attend college influence their ratings of that experience?

- Why were graduates more positive on nearly every attitude measure? Did their positive attitudes contribute to the likelihood of their graduating? How does alumni status affect one's attitude toward the college experience in retrospect?

- Since diploma graduates had by far more positive attitudes than AAS degree or certificate graduates, how did their program of study affect their attitudes? Is training for a specific job (as in a diploma program) more satisfactory than training for a family of jobs, contrary to much of the prevailing literature? How long does this more positive attitude last? Does a generalized training program become more valuable as job requirements change? Are opportunities for advancement enhanced by a more general education (such as the AAS degree)?

- Why do health and public service students express more positive attitudes than those in other curricula? Was this related to the demand for their services? Was the nature of their work related to their more positive attitudes?

Recommendations for Further Research

The need for further research in the area of occupational-technical education is widely recognized, particularly in terms of educational outcomes as related to objectives. Further analyses of the data collected for this study could prove extremely helpful. Other research concerns would require additional data collection and analysis.

From the data presently available, the following research recommendation is made:

1. Personal and academic characteristics of former students need to be related more rigorously to their attitudes toward the college, to their goals, and to their attitudes toward employment.

Analyses in this report were based on the relationship of single factors to student attitudes. Sex, race, graduation status, type of graduation credential, and curricular area were each related independently to student attitudes. Further research should concentrate on the interrelationships between these factors and student perceptions.

2. The attitudes of students toward their community college experience need to be analyzed by additional demographic, socioeconomic, and academic characteristics.

Additional data are available which could provide further understanding of the relationship between students' attitudes and their backgrounds and characteristics. For example, age, marital status, income level, parents' education, parents' employment, and credits earned could be used.

The following research recommendations involve additional data collection but are closely related to the content of this report:

3. Prior work experience and full-time or part-time status need to be studied in relation to the attitudes of former occupational-technical students. The attitudes of former students toward their experience at the community college, their job satisfaction, and the extent to which they currently value their college education may be affected by their prior work experience and their full-time or part-time status.

The numbers of students who have prior work experience and who are part-time comprise an increasingly greater proportion of community college enrollments in Virginia. There is a need to examine these two groups separately in order to base management and instructional decisions on information about them.

4. The appropriate balance of technical/skills courses and general education courses for occupational-technical students needs further investigation. Findings in this study indicated that students currently valued their preparation in general education higher than any other

aspect they were asked to evaluate. Yet, the graduates felt a need to increase the proportion of technical and skills courses. There is a need to know more specific information about the outcomes of general education and technical preparation and how they affect various aspects of students' lives. In addition, the value of general education and technical education needs to be related to student characteristics such as backgrounds and aspirations.

5. The factors which contribute to students' changing curricula need to be studied.

There is some evidence in the findings of this study to indicate that many students changed curricula because they learned more about themselves and were exposed to more educational experiences. Much could be learned for program planning at the community college if more information was gathered about the experiences students have which affect their decision to change curricula.

6. The initial expectations students have about particular careers need to be investigated in relation to job satisfaction.

Nearly one-fourth of the former students in this report evaluated their overall job satisfaction low, and nearly one-half thought their opportunities for advancement were low. About four of ten thought their salaries were too low. The need to determine the relationship between the expectations a student has about a job and his subsequent job satisfaction is important for career planning, counseling, and placement.

7. Students' goals need to be studied in relation to their family socioeconomic backgrounds and actual goal attainment.

A majority of the nongraduates indicated they had not attained their initial goals. Barriers to goal attainment need to be determined, to help students reach their goals when possible and adjust their goals when necessary.

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APPENDICES

APPENDIX A

TABLES

TABLE I

PERCENT OF RESPONDENTS WHO WOULD RECOMMEND COMMUNITY COLLEGE TO OTHERS

Group	N	Yes	No
		Sex	
Male	4,109	89	11
Female	1,814	91	9
Total	5,923	90	10
		Race	
White	5,238	89	11
Minority	685	90	10
		Graduation Status	
Graduate	2,177	91	9
Nongraduate	3,746	89	11
		Graduation Credential	
AAS Degree	1,358	90	10
Diploma	372	92	8
Certificate	435	93	7
		Curricular Area	
Business	2,993	90	10
Communications/Media	124	90	10
Engineering	1,957	89	11
Health	301	88	12
Public Service	363	96	4
Other	185	92	8

TABLE 2

QUALITY OF COLLEGE PREPARATION:
PERCENT RATING SUPERIOR OR GOOD

Group	Technical Knowledge and Understanding	Job or Learning Skills	Getting Along With People	Self Understanding	Knowledge About Career Opportunities	Communication Skills	General Education
				Sex			
Male	76	67	72	67	50	65	80
Female	79	80	78	67	58	72	82
Total	77	71	74	67	52	67	81
				Race			
White	77	70	73	66	51	66	80
Minority	77	75	78	72	57	73	83
				Graduation Status			
Graduate	85	79	78	70	56	69	84
Nongraduate	72	66	72	65	50	66	79
				Graduation Credential			
AAS Degree	85	77	76	69	54	70	84
Diploma	90	83	81	74	62	64	84
Certificate	82	84	80	70	59	66	84
				Curricular Area			
Business	73	72	75	66	51	69	81
Communications/Media	82	71	80	69	57	69	83
Engineering	80	67	71	65	48	60	78
Health	84	77	81	75	70	77	83
Public Service	82	76	77	76	66	77	85
Other	75	72	68	63	56	72	86

TABLE 3

CURRENT VALUE OF COLLEGE PREPARATION:
PERCENT RATING HIGHLY VALUABLE OR VALUABLE

Group	Technical Knowledge and Understanding	Job or Learning Skills	Getting Along With People	Self Understanding	Knowledge About Career Opportunities	Communication Skills	General Education
				Sex			
Male	67	66	73	68	47	62	75
Female	71	77	80	74	51	70	78
Total	68	69	75	70	48	65	76
				Race			
White	68	69	75	70	47	64	76
Minority	72	74	79	76	54	73	79
				Graduation Status			
Graduate	78	78	80	75	53	69	81
Nongraduate	62	64	72	68	45	62	74
				Graduation Credential			
AAS Degree	77	77	80	75	51	72	81
Diploma	83	79	78	75	57	61	81
Certificate	77	80	81	76	53	65	78
				Curricular Area			
Business	63	68	76	70	56	66	77
Communications/Media	68	65	74	74	53	69	74
Engineering	72	68	71	67	46	58	73
Health	86	85	75	85	61	80	81
Public Service	75	76	78	73	58	76	84
Other	71	75	75	75	49	73	80

TABLE 4

ASPECTS OF COMMUNITY COLLEGE EXPERIENCE:
PERCENT RATING SUPERIOR OR GOOD

Group	Shop and Lab. Instruction	Academic Instruction	Shop and Lab. Fac. And Equipment	Other Facilities	Counseling Given Students	Social Activities	Faculty Interest In Students	Evaluation Of Students' Performance	Overall
Sex									
Male	73	82	70	65	53	29	69	66	74
Female	75	83	72	67	57	30	67	63	78
Total	73	82	70	66	53	29	68	65	76
Race									
White	73	82	70	66	53	29	69	66	76
Minority	75	81	68	62	63	27	63	58	73
Graduation Status									
Graduate	78	87	74	70	54	28	75	70	82
Nongraduate	70	79	68	63	54	29	64	73	72
Graduation Credential									
AAS Degree	75	89	73	68	48	25	66	72	83
Diploma	86	87	76	73	58	35	78	75	84
Certificate	80	84	76	72	58	31	65	60	78
Curricular Area									
Business	70	82	71	66	55	29	67	63	75
Communications/Media	86	86	59	56	56	32	67	70	79
Engineering	88	80	72	64	54	28	68	64	74
Health	76	82	66	67	54	29	65	63	78
Public Service	67	88	60	72	56	34	78	77	83
Other	74	84	69	70	60	32	77	76	82

TABLE 5

PROPOSED MIX OF APPLIED AND GENERAL EDUCATION (GRADUATES ONLY)

Group	N	Present Proportion OK	Increase Proportion Of Courses In Tech. and Skills	Increase Proportion Of Courses In General Education
		Sex		
Male	1,388	30	57	14
Female	774	39	45	16
Total	2,162	33	53	15
		Race		
White	1,957	33	52	14
Minority	205	31	53	15
		Graduation Credential*		
AAS Degree	1,348	36	48	16
Diploma	374	27	64	10
Certificate	430	29	57	14
		Curricular Area		
Business	970	36	44	20
Communications/Media	32	31	63	6
Engineering	770	27	64	9
Health	190	37	51	12
Public Service	69	41	48	12
Other	131	36	49	15

*Does not include 10 AA and AS Degrees

TABLE 6

STUDENTS CHANGING CURRICULUM

Group	N	At Least One Change in Curriculum	No Curriculum Change
		Sex	
Male	3,877	22	78
Female	1,683	18	82
Total	5,560	21	79
		Race	
White	4,900	21	79
Minority	660	23	77
		Graduation Status	
Graduate	2,033	19	81
Nongraduate	3,527	23	77
		Graduation Credential	
AAS Degree	1,287	19	81
Diploma	341	11	89
Certificate	396	23	77
		Curricular Area	
Business	2,808	25	75
Communications/Media	124	19	81
Engineering	1,810	18	82
Health	286	9	91
Public Service	361	14	86
Other	171	29	71

TABLE 7

REASONS FOR CHANGING CURRICULUM

Group	N	Dissatisfied With Curriculum	Dissatisfied With Instruction	Low Achievement	Loss Of Interest	Personal Problem	Little Opportunity In Field	Parents Objected	Counselor's Advice	Wrong Choice Of Curriculum	Changed Career Goals	Other
						Sex						
Male	829	23	10	19	23	7	7	1	6	36	35	10
Female	296	21	13	14	22	12	9	3	11	33	39	12
Total	1,125	22	11	18	23	8	7	2	8	35	36	10
						Race						
White	984	24	11	17	23	8	7	1	8	36	36	10
Minority	141	13	10	23	24	13	8	2	6	31	30	11
						Graduation Status						
Graduate	357	22	12	18	17	9	7	2	8	38	35	14
Nongraduate	768	23	11	18	26	8	7	1	7	34	36	9
						Graduation Credential						
AAS Degree	230	24	14	17	16	6	6	1	8	36	36	13
Diploma	35	34	11	14	29	11	6	3	9	34	26	26
Certificate	85	13	11	20	17	16	12	5	11	44	33	12
						Curricular Area						
Business	682	24	12	18	24	10	7	2	9	35	35	10
Communications	21	24	14	29	19	10	10	-	10	24	24	-
Engineering	302	21	9	18	20	7	7	1	6	38	32	14
Health	24	17	12	12	17	8	12	-	-	25	46	4
Public Service	49	27	8	12	35	2	10	-	2	31	53	6
Other	47	19	8	19	13	6	4	-	6	43	49	6

*Respondents could check more than one reason; row totals may therefore exceed 100 percent.

TABLE 8

INITIAL EDUCATIONAL GOAL (NONGRADUATES ONLY)

Group	N	Certificate Or Diploma	Associate Degree Or Higher	Upgrade Technical Knowledge	Increase General Knowledge And Level Of Education	Other
			Sex			
Male	2,181	31	38	12	17	2
Female	818	38	31	11	17	2
Total	2,999	33	36	12	17	2
			Race			
White	2,606	32	36	12	17	2
Minority	393	36	39	10	13	2
			Curricular Area			
Business	1,676	34	35	10	20	2
Communications/Media	72	31	40	3	22	4
Engineering	934	33	34	16	14	3
Health	86	30	56	6	4	5
Public Service	201	19	58	10	10	2
Other	30	40	13	20	27	-

TABLE 9

ATTAINMENT OF INITIAL EDUCATIONAL GOAL (NONGRADUATES ONLY)

Group	N	Initial Educational Goal Attained	Initial Educational Goal Not Attained
		Sex	
Male	1,902	22	78
Female	708	25	75
Total	2,610	23	77
		Race	
White	2,262	23	77
Minority	348	19	81
		Curricular Area	
Business	1,465	23	77
Communications/Media	52	17	83
Engineering	846	25	75
Health	71	16	84
Public Service	149	16	84
Other	27	30	70

TABLE 10

JOB SATISFACTION: PERCENT RATING SUPERIOR OR GOOD

Group	Challenging And Interesting Work	Relations With Colleagues	Salary	Opportunity For Advancement	Overall
			Sex		
Male	78	85	57	55	72
Female	77	89	57	47	73
Total	78	86	57	53	72
			Race		
White	78	87	57	53	73
Minority	69	82	54	48	63
			Graduation Status		
Graduate	80	88	57	53	75
Nongraduate	76	85	57	53	70
			Graduation Credential		
AAS Degree	80	90	58	57	77
Diploma	79	85	60	52	73
Certificate	78	84	48	43	70
			Curricular Area		
Business	75	86	59	54	72
Communications/Media	69	91	56	50	65
Engineering	78	84	57	53	70
Health	91	94	54	48	82
Public Service	87	94	42	45	75
Other	80	86	51	55	73

TABLE 11

MOST HELPFUL SOURCE IN GETTING FIRST JOB

Group	N	College Placement Center	College Staff Member	Employer Contact At C.C.	State Employment Service	Answered An Ad.	Relative Or Friend	Other
				Sex				
Male	2,705	4	4	7	4	11	40	31
Female	1,044	5	10	5	8	12	34	26
Total	3,749	4	5	6	5	12	38	29
				Race				
White	3,366	4	5	7	5	11	39	29
Minority	383	4	8	3	7	14	33	31
				Graduation Status				
Graduate	1,587	7	10	12	5	10	32	24
Nongraduate	2,162	2	2	2	5	13	42	33
				Graduation Credential				
AAS Degree	957	10	9	9	5	10	32	27
Diploma	306	4	11	26	3	8	31	17
Certificate	319	5	14	6	9	9	35	21
				Curricular Area				
Business	1,866	4	5	3	7	13	41	29
Communications/Media	59	-	7	3	3	10	54	22
Engineering	1,344	6	5	11	4	11	37	27
Health	164	3	13	14	3	12	22	33
Public Service	190	1	1	3	2	8	30	54
Other	126	6	11	8	2	12	30	31

TABLE 12

PLACEMENT ASSISTANCE

Group	N	Placement Office Helpful	Faculty Members Helpful	Little Help Given	Faculty Didn't Seem to Know Available Opportunities	Placement Service Inadequate
			Sex			
Male	1,664	19	38	27	15	26
Female	729	16	39	27	17	23
Total	2,393	18	38	27	16	25
			Race			
White	2,153	18	38	27	15	25
Minority	240	17	36	25	16	29
			Graduation Status			
Graduate	1,262	23	47	21	16	25
Nongraduate	1,131	12	29	34	16	25
			Graduation Credential			
AAS Degree	762	25	44	20	15	28
Diploma	247	28	62	16	11	18
Certificate	251	12	42	29	22	23
			Curricular Area			
Business	1,189	16	31	29	17	29
Communications/Media	39	3	38	26	20	33
Engineering	879	23	44	25	15	22
Health	118	4	57	30	9	8
Public Service	79	10	57	28	9	19
Other	89	19	39	24	15	28

TABLE 13

SUMMARY OF MOST POSITIVE RESPONSES

	1	2	3	4	5	Total
Male	-	-	-	2	2	4
Female	1	6	7	7	2	23
White	-	-	-	7	5	12
Minority	1	6	7	2	-	16
Graduate	1	7	7	6	3	24
Nongraduate	-	-	-	2	-	2
AAS Degree	-	1	1	1	3	6
Diploma	-	4	2	6	2	14
Certificate	1	1	3	-	-	5
Business	-	-	-	-	2	2
Communication/Media	-	-	-	-	-	-
Engineering	-	-	-	2	-	2
Health	-	4	5	-	2	11
Public Service	1	2	2	7	1	13

1. Recommendation of College (Table 1)
2. Quality of Preparation (Table 2)
3. Current Value of Preparation (Table 3)
4. Aspects of Community College Experience (Table 4)
5. Job Satisfaction (Table 10)

One point was awarded for the subgroup which gave the more (most) positive response. Where both or more than one group gave an equal response, no points were given.

APPENDIX B

LIMITATIONS

1. The findings do not include data on prior work experience of students, full-time or part-time attendance, and day or evening status. These variables would facilitate interpretation of certain findings.

2. Any student who had completed at least one occupational-technical course was included in the occupational-technical population. Findings about students with very few credit hours in occupational-technical programs may not adequately reflect the effects of these programs.

3. Any student who had not completed a degree program was classified as a nongraduate; number of credit hours earned was not reported. Some nongraduates earned as many or more credit hours than did graduates.

4. Data analysis in this report was descriptive; no tests of hypotheses were intended.

5. Tests for nonresponse bias indicated significant differences in several variables: father's education, initial salary, opinions on quality of technical knowledge, on counseling, and an overall evaluation. Nonrespondents reported higher levels of father's education, higher initial salaries, higher ratings of quality of technical knowledge and counseling, and a higher overall evaluation.

APPENDIX C

DEFINITION OF TERMS

Certain terms need to be defined according to their use in this report. The following definitions should be noted:

1. Occupational-technical program - a program designed to prepare technicians, semi-professional workers, and skilled craftsmen for employment

2. Associate in Applied Science (AAS) degree program - a two-year program designed primarily to provide competence for employment in a specific occupational field

3. Diploma program - a two-year program which normally excludes general education and is designed to provide occupational competence in a specific field

4. Certificate program - a program normally of one year's duration which provides competence in a specific job or family of jobs

5. Graduate - any respondent who had earned as AAS degree, diploma, or certificate in an occupational-technical program

6. Nongraduate - any respondent who had enrolled in an occupational-technical program but had not earned an award

7. Minority - any person (or group) other than white, including Afro-American, Oriental, American Indian, and Spanish-surnamed American

APPENDIX D

COLLEGE DATA FORM

College _____ Code _____ [1]

Campus _____ Code _____ [2]

Person Completing Form _____

VIRGINIA COMMUNITY COLLEGE SYSTEM
DATA ELEMENTS FOR FORMER STUDENTS

PLEASE PRINT ALL ENTRIES

Date Prepared _____ [3] Page _____ of _____

[4] Soc. Sec. Number	NAME [5] Last	[6] First	[7] MI	HOME ADDRESS [8] Number	[9] Street	[10] City	[11] State	Zip	[12] Year of Birth	[13] Sex	[14] Home Residence	[15] Quarter Year First Enrolled	[16] Quarter Year Last Enrolled	[17] Curriculum First Enrolled	[18] Curriculum Last Enrolled	[19] Credits Earned	[20] Cumulative GPA	[21] Degree	[22] Year Graduated
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NOTE: Actual size of this form is 11" x 15 1/2"

APPENDIX E
SURVEY QUESTIONNAIRE

VIRGINIA COMMUNITY COLLEGE SYSTEM
SURVEY OF FORMER STUDENTS
SPRING, 1972

7

Dear Former Student:

Community colleges in Virginia are still in their early stages of growth, and we are searching for ways to improve our educational programs.

To help us, we ask you to complete this questionnaire. It requires information about your current activities and your earlier community college experience. It will require about 10 minutes of your time to complete. Your responses will be grouped with those of other former students, and will be used only for this study.

Please complete the questionnaire and return it to us within three days. A pre-addressed and stamped return envelope is enclosed for your convenience.

Thank you for your help.

Very truly yours,

Fred A. Snyder

Fred A. Snyder, Director
Research & Planning Division
Virginia Department of Community Colleges

DIRECTIONS:

USE PENCIL ONLY. MARK THE BOX ☒ OPPOSITE EACH ITEM THAT BEST REPRESENTS YOUR ANSWER(S). COMPLETELY ERASE ANY ANSWERS YOU WISH TO CHANGE.

(Please correct name and address if necessary)

1. (The following is needed as information about equal opportunity for education or employment.)

I consider myself as:

1 ☐ White
2 ☐ Black or Afro-American
3 ☐ American Indian
4 ☐ Oriental
5 ☐ Spanish surnamed American
6 ☐ Other (specify)_____

2. Show your father's and your mother's highest educational level.

	Father	Mother
Under 8 years	1 ☐	☐
Completed 8th grade	2 ☐	☐
Attended high school	3 ☐	☐
High school graduate	4 ☐	☐
Attended college	5 ☐	☐
Four-year college graduate	6 ☐	☐
Master's or higher degree	7 ☐	☐

3. Father's type of work. If he is retired or deceased, refer to his former job.

1 ☐ Clerical and Sales – bank teller, salesman, office or sales clerk, etc.
2 ☐ Managerial or Office Occupations – office or sales manager, bank officer, etc.
3 ☐ Professional – CPA, dentist, engineer, teacher, military officer, etc.
4 ☐ Proprietor or Owner – farm owner, owner of a small business, etc.
5 ☐ Semi-professional and Technical – engineering technician, dental technician, practical nurse, surveyor, etc.
6 ☐ Semi-skilled worker – machine operator, bus driver, meat cutter, etc.
7 ☐ Service worker – barber, policeman, waiter, fireman, etc.
8 ☐ Skilled worker or foreman – baker, carpenter, electrician, foreman, etc.
9 ☐ Unskilled worker – laborer, filling station attendant, farm worker, etc.
10 ☐ Unemployed
11 ☐ Unknown

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CONTINUED ON NEXT PAGE ——→

4. Your Marital Status.

- [ ] Single
- [ ] Married
- [ ] Other

5. Mark the one item that best describes your present employment or related status.

- [ ] Full-time employment
- [ ] Part-time employment
- [ ] College full-time
- [ ] Military service
- [ ] Housewife
- [ ] Unemployed
- [ ] Other (specify)_____

IF YOU HAVE NEVER BEEN EMPLOYED FULL-TIME SINCE LEAVING THE COLLEGE, GO DIRECTLY TO QUESTION 14.

6. Show the state in which you presently work.

- [ ] Virginia
- [ ] Maryland
- [ ] West Virginia
- [ ] North Carolina
- [ ] Tennessee
- [ ] District of Columbia
- [ ] Kentucky
- [ ] Another state (specify)_____

7. Show the approximate distance of your present employment from your former community college.

- [ ] Up to 25 miles
- [ ] 25 – 49 miles
- [ ] 50 – 99 miles
- [ ] 100 miles and over

8. Was the curriculum you were enrolled in at the community college related to your first job? Your present job?

	First Job	Present Job
Yes, very much	[ ]	[ ]
Yes, somewhat	[ ]	[ ]
No, or very little	[ ]	[ ]

9. If your present job is not related to your community college curriculum, please check each reason which applies.

- [ ] Could not find a job in field of preparation
- [ ] Found better paying job in another field
- [ ] Preferred to work in another field
- [ ] Qualified for new job by continuing my education
- [ ] Was not sufficiently qualified for a job in my field of college preparation
- [ ] Other (specify)_____

10. Please indicate both your initial yearly salary upon leaving the community college and your present salary. (This information will not be identified with you as an individual, but will be grouped with that from other former students.)

Initial Salary		Present Salary
[ ]	Up to $2,999	[ ]
[ ]	$3,000 – 3,999	[ ]
[ ]	$4,000 – 4,999	[ ]
[ ]	$5,000 – 5,999	[ ]
[ ]	$6,000 – 6,999	[ ]
[ ]	$7,000 – 7,999	[ ]
[ ]	$8,000 – 8,999	[ ]
[ ]	$9,000 – 9,999	[ ]
[ ]	$10,000 – 10,999	[ ]
[ ]	$11,000 – 11,999	[ ]
[ ]	$12,000 and over	[ ]

11. Please rate your satisfaction with your present job in terms of each of the aspects shown below. Mark one answer for each aspect.

	Superior	Good	Fair	Poor
a. Challenging and interesting work	[ ]	[ ]	[ ]	[ ]
b. Relations with colleagues	[ ]	[ ]	[ ]	[ ]
c. Salary	[ ]	[ ]	[ ]	[ ]
d. Opportunity for advancement	[ ]	[ ]	[ ]	[ ]
e. Overall aspects of your job	[ ]	[ ]	[ ]	[ ]

12. Please mark the one source most helpful in getting your initial full-time job upon leaving the community college. Mark one only.

- [ ] 1 Community college placement service
- [ ] 2 College staff member other than a placement service
- [ ] 3 Employer contact at the college
- [ ] 4 State employment service
- [ ] 5 Answered an advertisement
- [ ] 6 Relative or friend
- [ ] 7 Other (specify)_____

13. Please mark (X) each statement which shows your feelings about the help you obtained at the community college in getting your first job upon leaving.

- [ ] 1 The placement office was helpful
- [ ] 2 Faculty members were helpful
- [ ] 3 Little help was given to me or others in my curriculum
- [ ] 4 Faculty members were willing to help, but didn't seem to know what opportunities were available
- [ ] 5 Job placement service was not adequate

ALL PERSONS SHOULD ANSWER QUESTIONS 14 THRU 22.

14. To what extent have you continued your education since leaving the community college? Mark each statement that applies.

- [ ] 1 Still enrolled at the community college
- [ ] 2 None
- [ ] 3 Completed one or more employer training program
- [ ] 4 Took courses at another two-year college
- [ ] 5 Took courses at a four-year college or university
- [ ] 6 Completed an associate degree
- [ ] 7 Completed a bachelor's degree
- [ ] 8 Completed master's degree or beyond
- [ ] 9 Other (specify)_____

15. If you have continued your education since leaving the community college, please mark each reason for such further education or training which applies to you.

7

- [ ] 1 To prepare for further job opportunities in my present occupation
- [ ] 2 To improve my skills and abilities in my present job
- [ ] 3 For my own general education and personal satisfaction
- [ ] 4 To change occupation
- [ ] 5 It is expected of me by my employer
- [ ] 6 Other (specify)_____

16. Was the curriculum you were enrolled in at the community college related to your later study, if you have continued your education?

- [ ] 1 Yes, very much
- [ ] 2 Yes, somewhat
- [ ] 3 No, or very little

17. Did you at any time change from one curriculum to another while at the community college?

- [ ] 1 Yes
- [ ] 2 No

18. If your answer to question 17 was Yes, please mark the reason(s) for changing your curriculum as noted below.

- [ ] 1 Dissatisfied with curriculum
- [ ] 2 Dissatisfied with instruction
- [ ] 3 Low achievement
- [ ] 4 Loss of interest
- [ ] 5 Personal problem
- [ ] 6 Little opportunity in this field
- [ ] 7 Parents objected
- [ ] 8 Counselor's advice
- [ ] 9 A wrong choice of curriculum in the first place
- [ ] 10 Changed career goal(s)
- [ ] 11 Other (specify)_____

19. Would you recommend the community college to a person seeking to complete the same program you studied? [ ] 1 Yes [ ] 2 No

20. How well did the community college prepare you in each of the following aspects? Mark only one answer for each aspect.

	Superior	Good	Fair	Poor
a. Technical knowledge and understanding	[ ]	[ ]	[ ]	[ ]
b. Job or learning skills	[ ]	[ ]	[ ]	[ ]
c. Getting along with people	[ ]	[ ]	[ ]	[ ]
d. Self-understanding	[ ]	[ ]	[ ]	[ ]
e. Knowledge about career opportunities in your field	[ ]	[ ]	[ ]	[ ]
f. Communication skills (oral or written)	[ ]	[ ]	[ ]	[ ]
g. General education	[ ]	[ ]	[ ]	[ ]

CONTINUE ON NEXT PAGE →

21. How valuable are each of these aspects of your community college education to you now? Mark only one answer for each aspect.

	Highly Valuable	Valuable	Some Value	Little or No Value
a. Technical knowledge and understanding	☐	☐	☐	☐
b. Job or learning skills	☐	☐	☐	☐
c. Getting along with people	☐	☐	☐	☐
d. Self-understanding	☐	☐	☐	☐
e. Knowledge about career opportunities in your field	☐	☐	☐	☐
f. Communication skills (oral or written)	☐	☐	☐	☐
g. General education	☐	☐	☐	☐

22. Please give your opinion about each of the following aspects of your community college experience. Mark only one answer for each aspect.

	Superior	Good	Fair	Poor
a. Shop and laboratory instruction	☐	☐	☐	☐
b. Academic instruction	☐	☐	☐	☐
c. Shop and laboratory facilities and equipment	☐	☐	☐	☐
d. All other college facilities	☐	☐	☐	☐
e. Counseling given to students	☐	☐	☐	☐
f. Social activities	☐	☐	☐	☐
g. Interest in students shown by faculty	☐	☐	☐	☐
h. Evaluation of students' performance by faculty	☐	☐	☐	☐
i. Overall	☐	☐	☐	☐

ONLY THOSE WHO EARNED A CERTIFICATE, DIPLOMA, OR ASSOCIATE DEGREE SHOULD ANSWER QUESTION 23.

23. In every occupational-technical curriculum, there is a "mix" of courses in (a) applied technical and skills preparation and (b) general education. Please show the proportional "mix" of such courses that you would like to see in your curriculum at your community college.

1 ☐ O.K. as is. Don't change it.

2 ☐ Increase the proportion of courses in technical and skills areas.

3 ☐ Increase the proportion of courses in general education.

ONLY THOSE WHO DID NOT COMPLETE AN EDUCATIONAL PROGRAM AT THE COMMUNITY COLLEGE SHOULD ANSWER QUESTIONS 24 THRU 27.

24. What was your primary educational goal when you initially enrolled at the community college? Mark one only.

1 ☐ Earn a certificate or diploma to improve my employment and career skills.

2 ☐ Earn an associate degree or a higher degree

3 ☐ Upgrade technical knowledge and skills in specific fields by taking just one or several courses

4 ☐ Increase my general knowledge and level of education

5 ☐ Other (specify)

25. Was the goal you noted above achieved before you left the community college?

1 ☐ Yes 2 ☐ No

26. What principal reason(s) made you decide to discontinue attendance at the community college? Mark each that applies.

1 ☐ Employment
2 ☐ Marriage
3 ☐ Entered military service
4 ☐ Lack of financial support
5 ☐ Transferred to another college
6 ☐ Moved to another area
7 ☐ Lack of transportation
8 ☐ Completed my educational goal
9 ☐ Personal adjustment problem
10 ☐ Lack of interest
11 ☐ Low achievement
12 ☐ Change in educational goal
13 ☐ Other

27. Do you intend to return to a community college for additional work?

1 ☐ Yes 2 ☐ No

THANK YOU FOR YOUR ASSISTANCE.

APPENDIX F

CURRICULAR AREAS

Business

Accounting Technology/Accounting
Data Processing (Program/Unit Record)
Data Processing (Mach. & Comp. Opr./Keypunch)
Business Management/General Business
Hotel, Restaurant & Institutional Management
Merchandising Management/General Merchandising
Real Estate Management
Stenography/Clerical Studies
Secretarial Science

Communications and Media

Commercial Art/Printing

Engineering

Architectural Technology
Aeronautical Technology
Automotive Technology
Auto Trades (Analysis & Repair, Body Repair, Diagnosis, Engine, Diesel, Auto Mechanics)
Chemical Technology
Civil Engineering Technology/Civil Technology
Drafting and Design Technology/Drafting and Design
Drafting Trades (Drafting, Mech., Arch., Struct.)
Industrial Management/Technology
Electronic Technology/Electrical Technology
Electronic Trades
Machine Technology/Trades
Marine Technology
Mechanical Engineering Technology/Mechanical Technology
Building Trades (Air Cond. and Refr., Masonry, Plbg., Sh. Metal, Weld., Carpentry)
Textile Management

Health Service

Dental Laboratory Technology/Dental Assistance
Medical Laboratory Technology
Medical Records Technology
Mental Health Technology
Mortuary Science
Nursing
Practical Nursing
Radiological Technology

Public Service

Community & Social Service Technology/Assistant
Fire Science/Firefighting
Recreation and Parks Leadership
Police Science/Corrections/Law Enforcement
Environmental Technology

Other

Agricultural Business Technology
Forest Technology
Teacher Aide (Library/Audio Visual)
Developmental/Unclassified

UNIVERSITY OF CALIF.
LOS ANGELES

OCT 3 1975

CLEARINGHOUSE FOR
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